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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,645	03/09/2001	Jong-Weon Moon	3430-0166P	3942

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EXAMINER

TON, MINH TOAN T

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,645

Applicant(s)

MOON, JONG-WEON

Examiner

Toan Ton

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 and 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 13, 14, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 13-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (APA hereinafter, Figures 1-2) in view of Kamimura et al (JP 2000-275629).

APA discloses all claimed elements except for the black matrix made of cholesteric liquid crystal (CLC).

Kamimura teaches that the use of a black matrix having a cholesteric structure improves usage efficiency of light since it does not absorb light. Therefore, it would have been obvious to one of ordinary skill in the art to employ a black matrix having a cholesteric structure for advantages such as improving usage efficiency of light. Further, employing the same material for the back matrix and the first polarizer would have been at least obvious to one of ordinary skill in the art for advantages such as reduction of manufacturing steps.

Allowable Subject Matter

3. Claims 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2871

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not anticipate nor render obvious to one ordinary skilled in the art a liquid crystal display device comprising a combination of various elements as claimed, more specifically, the black matrix made of the same material as the first polarizer, wherein the polarizer reflects one of left-handed circularly polarized light and right-handed circularly polarized light, and the black matrix reflects the other handed circularly polarized light.

Response to Arguments

4. Applicant's arguments filed 03-17-03 have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

- (1) Both APA and Kamimura fail to disclose the polarizer formed of CLC.
- (2) Both APA and Kamimura fail to disclose the limitations of claims 18-19.
- (3) Both APA and Kamimura fail to disclose the light efficiency improvement.

Examiner's responses to Applicant's arguments are as follows:

- (1) APA discloses the CLC polarizer 32. It is noted that the rejection is under 35 USC 103, and Kamimura is used as a secondary reference.
- (2) Claims 18-20 are objected.
- (3) Kamimura teaches that the use of a black matrix having a cholesteric structure improves usage efficiency of light since it does not absorb light. Therefore, it would have been obvious to one of ordinary skill in the art to employ a black matrix having a cholesteric structure for advantages such as improving usage efficiency of light. Further,

a common goal in the art has always been maximizing light efficiency, thus resulting in a brighter display device.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. TON whose telephone number is (703) 305-3489. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

June 24, 2003


T. TON
PRIMARY EXAMINER